

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 2, as follows:

1. Technical Field ~~of the Invention.~~

Please amend the paragraph beginning at page 4, line 17, as follows:

BRIEF SUMMARY OF ~~THE INVENTION~~ EXEMPLARY

EMBODIMENTS.

Please amend the paragraph beginning at page 4, line 18, as follows:

According to the first aspect of the invention there is provided a method of managing media stream connections for a media session, said method comprising the steps:

receiving a session description of a media session;

parsing the session description to determine appropriate media application

programs for processing ~~the~~ a or each media stream of the session description;

selecting one or more media streams identified in the session description, the session description including data relating to a quality of service policy; and

determining based on available resources whether participation in the media session is viable using the quality of service policy based on said data;

connecting the ~~or each~~ selected one or more media streams to one or more respective media application programs ~~or programs~~ utilising a session control

BELL et al.
Application No. 09/830,459
April 19, 2005

configured for managing media stream connections for the ~~or each~~ one or more media application programs.

Please amend the paragraph beginning at page 5, line 2, as follows:

Preferably, the selection of the ~~or each~~ one or more media streams is carried out by the session control according to predetermined criteria.

Please amend the paragraph beginning at page 5, line 4, as follows:

In ~~preferred~~ particular exemplary embodiments, the predetermined criteria are specific to the preferences of at least one of the group consisting of an end-user, the terminal and the ~~or each~~ one or more media application programs.

Please amend the paragraph beginning at page 5, line 10, as follows:

~~Preferably,~~ The method may further comprises the step of passing at least a portion of the session description to the ~~or each~~ one or more media applications.

Please amend the paragraph beginning at page 5, line 12, as follows:

In ~~preferred~~ particular exemplary embodiments the media applications generate or modify a quality of service policy for the connection requests for use by the session control.

Please amend the paragraph beginning at page 5, line 16, as follows:

BELL et al.
Application No. 09/830,459
April 19, 2005

Preferably, ~~the~~ session control may pass the connection requests to a terminal communications manager which determines whether the connection requests are viable and subsequently initiates the connections.

Please amend the paragraph beginning at page 5, line 19, as follows:

In ~~preferred~~ particular exemplary embodiments, the session control prioritises the connection requests from the media applications according to the quality of service policy to create a set of connection requests which are passed to the communications manager.

Please amend the paragraph beginning at page 5, line 25, as follows:

~~Preferably, if~~ the connection requests can be met the connections are initiated. If a connection request cannot be met and the connection request is for an optional media stream of the media session then the communications manager proceeds by declaring the connection request unviable and moves to the next connection request. ~~if~~ a connection request cannot be met and the connection request is for a mandatory media stream of the media session then the communications manager proceeds by attempting to free resources to meet the connection request, and if the communications manager is unable to free sufficient resources to meet the connection request, the connection request is declared unviable and the communications manager refuses to join the media session.

BELL et al.

Application No. 09/830,459

April 19, 2005

Please amend the paragraph beginning at page 6, line 9, as follows:

In ~~preferred~~ particular exemplary embodiments the method further comprises the step of obtaining a missing part of the session description by following a link or links in the session description before parsing the session description.

Please amend the paragraph beginning at page 6, line 12, as follows:

According to a second aspect of the invention there is provided a system for managing media stream connections derived from a session description for a media session, the system comprising a session control for parsing the session description to determine appropriate media application programs for processing ~~the or each~~ at least one media stream of the session description; a communications manager for determining based on available resources whether participation in the media session is viable using a quality of service policy based on quality of service data provided in said session description; and the session control being configured to manage media stream connections for the media applications programs.

Please amend the paragraph beginning at page 6, line 18, as follows:

In a ~~preferred example~~ an exemplary embodiment of the present invention media modules of a modular session description are checked by the respective multimedia client application prior to QoS management, thereby reducing the workload of the communications manager, ~~that~~ That is, to say the respective

BELL et al.

Application No. 09/830,459

April 19, 2005

client applications determine whether the media modules can be supported. The applications may also add to or modify the session description to include their own QoS policies or to change the way in which the session and/or its initiation will be managed. Furthermore, applications need only request streams from the session control system associated with the client since the session control now handles centrally the creation and management of streams in real time. In this way ~~the present invention~~ the exemplary embodiment simplifies application development and service provision.

Please amend the paragraph beginning at page 7, line 2, as follows:

A further problem is that applications should be able to adapt to available network and host resources. This is particularly important for multi-party applications operating in heterogeneous environments where each party may have different resources available to them. Furthermore the nature of the heterogeneity may vary over the lifetime of the session, for example as network congestion varies or as the terminal resources are shared with other applications or other users. ~~The~~ An exemplary embodiment of the present invention is able to use a QoS policy incorporated within the session description to prioritise the allocation of resources and to determine whether participation in the session is viable.

Please amend the paragraph beginning at page 7, line 10, as follows:

A further problem is that the application developer and service provider typically need to address security and charging requirements. ~~The~~ An exemplary embodiment of the present invention allows security and charging policies to be incorporated within the session description for use within the session control system to invoke appropriate charging and security procedures. Instead of having to develop security and charging functions the application developer and service provider need only specify appropriate policies.

Please amend the paragraph beginning at page 7, line 16, as follows:

In an exemplary embodiment of the present invention, application development is simplified by using the session description to drive the dynamic management of communication channels and to adapt to available resources. It also reduces the problem of handling charging and security requirements to a matter of specifying charging and security policies within the session description.

Please amend the paragraph beginning at page 7, line 21, as follows:

~~The~~ An exemplary embodiment of the present invention is particularly useful when used in conjunction with the modular session description described in this patent application and which is also the subject of our co-pending UK patent application 9826158.9.

Please amend the paragraph beginning at page 17, line 16, as follows:

BELL et al.

Application No. 09/830,459

April 19, 2005

A terminal profile is determined in step 710. The terminal profile defines the resources which are available at the end user's computer for use by the requested media streams. This includes available network bandwidth, free memory and disk space and available hardware such as monitor size, processor speed and free audio and video capture devices. The media profile of each connection request is compared against the available system resources defined by the terminal profile in step 720. If the terminal profile matches or exceeds the media profile, the connection request is declared viable in step 730 and the availability of the resources of the terminal profile is decremented-lessened accordingly for the remaining connection requests in step 740. Each connection request is processed until there are no remaining requests or until the media profile of a request exceeds the terminal profile. In this situation, the communications manager determines the optimum terminal profile the user's computer would have if all non-essential applications were not running in step 750 and whether the computer is capable of fulfilling the media profile in step 760. If the computer is capable of fulfilling the media profile, the communications manager attempts to free system resources from currently allocated streams or connection requests which have lower priority or by asking the user to terminate other non-essential applications running on the computer in step 770. Alternatively, this could be done by reducing the number of layers received from a layered stream transmission. If sufficient resources cannot be found an exception is reported to the user and the connection request is marked as viable. If the media stream that cannot be received is defined as mandatory in a

BELL et al.

Application No. 09/830,459

April 19, 2005

QoS policy for a media session or sub-session, all the connection requests for that media session or sub-session are cancelled in step 790. If, however, the media stream is optional, the communications manager continues processing further connection requests in step 720. Once all pending connection requests have been processed, the communications manager reports those that are viable to the session control system.

Please amend the paragraph beginning at page 21, line 22, as follows:

Whilst ~~the present invention has~~ exemplary embodiments have been described with reference to the Internet and multicast transmissions, it will be apparent to the reader that the described modular session description and the session control system are applicable to the announcement and subsequent management of connections to media streams of a (multi) media session using other known transport mechanisms such as unicast.